

REMARKS

Status of the Claims

Claims 1 – 28 are pending, with claims 1, 12, 20, and 24 being independent. Applicants note that no additional claim amendments are presented herewith. Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the following remarks.

Claim rejections under 35 U.S.C. § 103(a)

Claims 1-6 and 10-11 were rejected under 35 USC §103(a) as being obvious over Union Carbide in view of acknowledged prior art in the Office Action dated March 26, 2003. Applicants maintain their traversal of this rejection as in the response filed on June 26, 2003. In the present Office Communication, the Examiner asserts that the reply filed on June 26, 2003, was not fully responsive to the prior Office action because the Applicants did not address the rejection as it relates to the use of sodium hydroxide as a neutralizing agent, i.e., how the new limitation “irreversibly” excludes sodium hydroxide.

Union Carbide teaches that gluteraldehyde can be deactivated chemically by adding 2 – 3 parts (by weight) of sodium bisulfite. (page 8). Union Carbide also teaches that glutaldehyde concentrations of up to 2% active may be deactivated by the addition of a sufficient amount of aqueous sodium hydroxide to maintain a pH of 12. Union Carbide further teaches that the treated solutions of gluteraldehyde should be returned to neutral pH by the addition of an *inorganic acid*, e.g., hydrochloric acid, *before* disposal by appropriate means.

As set forth in the response filed on June 26, 2003 for sodium bisulfite, Applicants respectfully submit that the reaction of gluteraldehyde with sodium hydroxide is also a *reversible* reaction. Accordingly, Applicants respectfully submit that Union Carbide teaches *reversible* deactivations of gluteraldehyde, and *regenerating* the carbonyl compound by adding an inorganic acid *before* disposal by appropriate means.

In contrast, the presently claimed invention is directed to methods of inhibiting growth and reproduction of microorganisms in a cooling water system used in an industrial process. In the methods of the present invention, a deactivatable biocide and a neutralizing agent are used. The neutralizing agent is added to the water comprising the deactivatable biocide in an amount effective to *irreversibly* deactivate the biocide before or upon disposal of the cooling water. The

specification teaches that deactivation, according to the present invention, is an *irreversible* process, i.e., the process may *not* be reversed to re-generate the active biocide. Applicants teach that irreversibly deactivating the deactivatable biocides according to the present invention advantageously avoids environmental and treatment concerns and eliminates the disposal and wastewater problems that accompany traditional use of biocides. (page 6, paragraph [0029]).

It is respectfully submitted that in no way does Union Carbide disclose, teach, or suggest adding an effective amount of a neutralizing agent to the cooling water to *irreversibly* deactivate a biocide before or upon disposal of the cooling water. Applicants further respectfully submit that no art has been admitted that would supplement any deficiency of Union Carbide in this regard.

Conclusion

For the reasons noted above, the art of record does not disclose or suggest the inventive concept of the present invention as defined by the claims.

In view of the foregoing remarks, reconsideration of the claims and allowance of the subject application is earnestly solicited. The Examiner is invited to contact the undersigned at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted,

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